

*THE CHANGING DISTRIBUTION OF FEDERAL
TAXES: A CLOSER LOOK AT 1980*

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Summary and Introduction

A recently released study by the Congressional Budget Office measured changes in the distribution of combined federal tax liabilities by family income classes during the 1975-1990 period.¹ That study presented a detailed analysis of the distribution of federal tax liabilities in three representative years: 1977, 1984, and 1988. In the study, combined federal taxes included individual and corporate income taxes, social insurance payroll taxes, and excise taxes except for the windfall profit tax. This staff working paper uses identical methods to study the same federal tax liabilities in one intervening year, 1980.

As reported in the earlier CBO study, total effective tax rates (the ratio of taxes from all four sources to family income) rose between 1977 and 1984 for the 10 percent of families at the lowest end of the distribution and fell for the 10 percent of families at the highest. Overall, the distribution of total federal taxes became less progressive.

1977 - 1980

Subdividing the 1977-1984 period helps to place those changes in the context of the economic and tax policy events of the late 1970s and early 1980s. Between 1977 and 1980, the total effective tax rate for all four taxes combined declined for the 20 percent of families in the bottom of the income distribution and generally rose for the 50 percent of families in the upper end, except

1. Congressional Budget Office, *The Changing Distribution of Federal Taxes: 1975-1990* (October 1987).

for the 10 percent of families with the highest incomes. Total effective tax rates for other family income classes changed little between 1977 and 1980.

The total effective tax rate is the combination of effective rates for each separate federal tax source (where each effective rate is the ratio of taxes paid from that source to family income). Thus, changes in effective tax rates depend both on changes in the share of revenue raised by different tax sources and on shifts in the distributional burden of each source separately. For example, a shift toward the relatively more regressive excise or payroll taxes would increase the measured share of overall taxes paid by lower income groups, while a shift toward the individual income tax would decrease their share.

Between 1977 and 1980, effective tax rates for individual income and social insurance taxes rose for most income classes, while rates for excise and corporate income taxes fell. For the 20 percent of families with the lowest incomes, the drop in the effective excise tax rate was responsible for most of the drop in the total effective tax rate. For most of the top half of the income distribution, the decline in the effective excise and corporate income tax rates was too small to offset the increase in effective social insurance and individual income tax rates. For the other families, the net effect of the changes was very small.

Between 1977 and 1980, effective individual income tax rates rose for most family income classes, as rising nominal incomes pushed families into higher income tax brackets. These increases came despite legislated reductions in some tax rates and increases in personal exemptions, zero bracket amounts (standard

deductions), and the width of tax brackets enacted in the Revenue Act of 1978. For the 1 percent of families with the highest incomes, however, effective individual income tax rates fell slightly between 1977 and 1980, reflecting a reduction in the tax rate on capital gains that also was enacted in the Revenue Act of 1978.

Effective social insurance tax rates rose between 1977 and 1980 for families in all income classes except the lowest, as a result of increases in the Social Security payroll tax rate enacted in the Social Security Amendments of 1977. The exception for families in the lowest class came about because of a change in the composition of income for those families as the fraction of their income from wages declined.

Between 1977 and 1980, effective corporate income tax rates declined for families in all income classes. This drop reflected a decline in corporate profits over those years and, to a lesser extent, a reduction in statutory corporate income tax rates enacted in the Revenue Act of 1978.

Effective federal excise tax rates fell between 1977 and 1980 for families in all income classes as inflation caused nominal incomes to rise while statutory excise tax rates remained largely unchanged. Because most federal excise tax revenue derives from taxes that are levied on a per-unit or specific basis (for example, cents per gallon or per number of cigarettes) rather than as a percent of expenditures, tax payments do not increase proportionally with increases in nominal incomes. It was this decline in effective excise tax rates that was

primarily responsible for the decline in total effective tax rates for lower-income families between 1977 and 1980.

1980 - 1984

Between 1980 and 1984, the total effective tax rate for all families taken together dropped noticeably, from 23.3 percent in 1980 to 21.7 percent in 1984. The decline was not uniform across all income classes, however. Effective tax rates rose for the 30 percent of families at the lowest end of the income distribution and fell for the 70 percent of families in the upper end, with the size of the reduction increasing with family income. The 10 percent of families at the highest end of the distribution had both the largest percentage and the largest absolute decrease in effective tax rates.

These changes were the result of different movements in the distribution of effective rates for each separate tax source. Between 1980 and 1984, the overall effective tax rates for all families rose for social insurance and excise taxes and fell for individual and corporate income taxes, but the effective individual income tax rate did not drop for low-income families. Effective tax rates rose for families in the bottom 30 percent of the income distribution because their payroll and excise tax rates rose while their effective individual income tax rates did not fall. The drop in the corporate income tax rates had little effect on low-income families. For the remaining 70 percent of families, the drop in the income tax rates more than offset the increase in payroll and excise taxes. The decline in effective individual income tax rates was largest for families with the highest incomes.

The changes in effective rates under the individual income tax resulted largely from the Economic Recovery Tax Act of 1981 (ERTA). ERTA substantially cut statutory tax rates and increased allowable deductions, but it failed to offset the effect on low-income families of an inflation-induced decline in the real value of personal exemptions, zero bracket amounts (standard deductions), and the earned income credit. The increase in social insurance taxes between 1980 and 1984 reflected additional increases in the Social Security payroll tax rate and in the maximum amount of earnings subject to the tax, enacted in the Social Security Amendments of 1977 and of 1983. The decline in the effective corporate income tax rate occurred as a result of the increase in corporate tax preferences enacted in ERTA, and despite an increase in the corporate profit share of gross national product between 1980 and 1984.

Effective excise tax rates rose between 1980 and 1984 for all family income classes, except for the 10 percent of families with the highest incomes. This rise reflected increases in the taxes levied on gasoline, tobacco, and telephone services. Although the increase in effective rates was small for families in most income classes, the increase for low-income families was sizable. This effect occurred not only because of the increase in statutory tax rates, but also because of a large increase in measured expenditures as a percentage of income for low-income families, particularly expenditures on gasoline.

1980 - 1988

By 1988, the distribution of combined federal taxes is projected to become more progressive than in 1984, but to remain less progressive than in either 1977 or

in 1980.² Although the combined effective tax rate for all families taken together is expected to drop slightly from 1980 to 1988, total effective federal tax rates are projected to be higher for families in the bottom half of the income distribution and lower for families in the top half. The largest reductions between 1980 and 1988 will be for the 1 percent of families with the highest incomes.

Most of the change in the distribution of taxes between 1980 and 1988 is the result of an increase in social insurance taxes and a decrease in individual income taxes. For families in the bottom half of the income distribution, the effective social insurance tax rate will increase more than the individual income tax rate will fall. For families in the top half, the lower individual income tax will outweigh the increase in social insurance taxes. Because the individual income tax is a highly progressive tax, while social insurance taxes are much less progressive and even regressive in the highest-income range, a shift from income to payroll taxes reduces the progressivity of total federal taxes.

By 1988, the effective individual income tax rate is projected to fall to 10.4 percent, down from 12.3 percent in 1980. The net result of all changes since 1980, which include ERTA and the Tax Reform Act of 1986, is that effective individual income tax rates will be lower in 1988 than they were in 1980 for families in all income deciles. Conversely, by 1988 the effective social insurance tax rate is projected to rise to 8.7 percent, up from 7.2 percent in 1980. The

2. Incomes for 1988 are based on the Congressional Budget Office economic projections of August 1987. Simulated 1988 taxes do not reflect changes enacted in the Omnibus Budget Reconciliation Act of 1987. For a description of the changes in the CBO forecast since August 1987 and the effects of legislation enacted in the fall of 1987, see Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1989-1993* (February 1988).

higher rate reflects increases in the Social Security payroll tax rates enacted in the Social Security Amendments of 1977 and of 1983.

Comparing Effective Tax Rates in 1980 and 1988

The distribution of effective tax rates can change between years not only because of changes in tax policy but also as the result of changes in the distribution of incomes and expenditures. Evaluating effective tax rates under different tax laws but at a constant level of income helps to isolate the separate effect of tax policy changes.

When effective tax rates are computed for 1988 incomes using 1980 law adjusted to 1988 levels, the decline in progressivity between 1980 and 1988 is reduced. This result suggests that some of that decline stems from shifts in the distribution of income between the two years. When expenditures as well as incomes are held constant at their 1988 levels, the decline in progressivity between 1980 and 1988 is further reduced. Holding expenditures constant at their 1988 level removes much of the difference in effective federal excise tax rates between 1980 and 1988 for families in the lowest income class.

Additional Distribution Information

The share of taxes paid by the 10 percent of families with the highest incomes rose by between 1.0 and 1.5 percentage points between 1980 and 1988. This occurred even though these families had the largest reduction in taxes as a percentage of income--in both absolute and percentage terms--over the same period. The increase in the share of taxes paid by this group resulted from a growth

of nearly 3 percentage points in their share of pre-tax income between 1980 and 1988, more than offsetting the decline in their effective tax rate.

Summary Indexes of Tax Progressivity

Several measures are available that summarize the progressivity of the tax system with a single index number. Comparisons across years of two widely used tax progressivity indexes show no noticeable difference in progressivity between 1977 and 1980, a decrease in progressivity between 1980 and 1984, and an increase between 1984 and 1988. While these indexes project an increase in progressivity between 1984 and 1988, they also suggest that the distribution of federal tax liabilities will remain less progressive in 1988 than in either 1980 or 1977.

Measuring Family Incomes and Federal Tax Liabilities

In this report, as in the earlier CBO study, combined federal taxes include individual and corporate income taxes, social insurance payroll taxes, and excise taxes except for the windfall profit tax. The distribution of taxes is classified as progressive if the ratio of taxes to incomes (the effective tax rate) rises as incomes rise, regressive if the ratio falls as incomes rise, or proportional if the ratio is the same at all income levels.

The results of any study of the distribution of tax liabilities necessarily depend on assumptions that are subject to challenge. There is no definitive way in which to assign combined federal taxes to particular family income groups. Nor is there a definitive way in which to measure family incomes.

Although federal tax payments are made by persons, corporations, and non-corporate employers, the economic burden of all taxes ultimately rests with families and individuals. Economists speak of the reduction in family income or purchasing power as the incidence of a tax. The incidence of some taxes, particularly the corporate income tax, has not been estimated conclusively, and remains a controversial issue. The following incidence assumptions are used in this study.³

- The individual income tax burden is attributed to the families who directly pay the tax. The study assumes no shifting of the tax among families.
- The social insurance payroll tax burden is allocated to employee compensation.
- The corporate income tax burden is allocated in two different ways. In alternative one, the burden is allocated to capital income. This is the standard treatment if the supply of investment capital is fixed, as in an economy where the rate of saving is relatively constant and domestic capital markets are isolated from international markets. In alternative two, the burden is allocated to employee compensation. This is an appropriate treatment if the supply of investment capital is highly responsive to taxes and other prices, as in a world economy with interdependent capital markets. Because capital income is a larger share of the total income of higher-income families than of moderate- and lower-income families, the corporate tax is more progressive with the first alternative than the second.
- The excise tax burden is allocated in proportion to expenditures on the taxed goods and services.

The study does not attempt to allocate the distributional effects of general government spending. In comparing the distribution of federal taxes in different years, shifts in the distribution of general expenditures between those years

3. For a more detailed discussion of these incidence assumptions, see Chapter III in Congressional Budget Office, *The Changing Distribution of Federal Taxes: 1975-1990*.

are ignored. The study also separates the distributional effects of taxes from the effects of expenditures specifically related to those taxes. Social Security revenues are thus implicitly treated as independent of benefit payments.

In the study, family income is measured on a cash receipts basis, a definition generally consistent with the measure of income used by the federal tax system. Family income equals the sum of wages, salaries, self-employment income, and personal rents, interest, and dividends, plus cash pension benefits and realized capital gains. Family income excludes accrued but unrealized capital gains, employer contributions to pension funds, in-kind government transfer payments, and other noncash income. Because income is measured before reductions for any federal taxes, employer contributions for federal social insurance and federal corporate profits taxes are added to family income.⁴ For a discussion of the source of the data and adjustment to the data, see the accompanying box.

The Year 1980

Both 1977 and 1984 were years of relatively high growth in gross national product (GNP), declining unemployment rates, rising but relatively modest rates of inflation, and relatively high corporate profits. In both years the economy had come out of a recession two years before and had just attained or was about to attain its new peak.

4. For a discussion of different definitions of family income and the reasons for using this particular definition, see Chapter IV in Congressional Budget Office, *The Changing Distribution of Federal Taxes: 1975-1990*.

BOX

SOURCES OF DATA ON FAMILY INCOME,
AND ADJUSTMENTS TO THE DATA

Distributions of family income for 1977, 1980, and 1984, and the projected distribution in 1988, are based on data from three sources. The primary source is the March Current Population Survey (CPS) for 1978, 1981, and 1985. The CPS is a monthly survey of approximately 60,000 families, conducted by the Bureau of the Census. Each March, the survey collects detailed information on family characteristics and family income in the previous calendar year. The reported data on income from taxable sources from the CPS files were adjusted for consistency with reported income from Statistics of Income (SOI) samples for calendar years 1977, 1980, and 1984. The SOI is an extensive annual sample of actual individual income tax returns. Data on consumer expenditures were taken from the 1980/1981 and 1984 Consumer Expenditure Survey (CES) Interview Surveys. The CES Interview Survey is a quarterly panel survey conducted by the Bureau of Labor Statistics. The survey collects detailed data on household expenditures over a 12-month period. The 1980/1981 CES data were adjusted to 1977 levels by changes in per capita expenditures of certain types as reported in the National Income and Product Accounts. Each of the 1984 files was adjusted to 1988 using actual growth rates in population, income, and expenditures through 1986, and projected growth rates for 1987 and 1988.

For purposes of comparing the distribution of family incomes in those years, income was divided into four categories: labor income (wages, salaries, and income from self-employment), capital income (rents, interest, dividends, and capital gains), transfer income (Social Security, unemployment insurance, Aid to Families with Dependent Children, Supplemental Security Income, workers compensation, and veterans' benefits), and other income (alimony, child support, and private pension payments).

Many people incur "paper losses" for tax purposes. In order to approximate better the economic income of families, rental losses and most partnership losses were not subtracted from family income. All losses of sole proprietorships were allowed.

Reported pre-tax family incomes were adjusted to include the amount of the employer share of the Social Security payroll tax, the unemployment insurance payroll tax, and the corporate income tax. The unemployment insurance payroll tax and the employer share of the Social Security payroll tax were allocated to the employee on whose behalf the taxes were paid.

The corporate income tax was assigned to incomes in two ways, consistent with the two tax incidence assumptions. In the first alternative, all wages were increased by the ratio of corporate income taxes to total wages. In the second alternative, capital income (consisting of positive rents, interest, dividends, and an adjusted amount of realized capital gains) was increased by the ratio of corporate taxes to the sum of capital income. (Total adjusted capital gains in a particular year are computed as a fixed percentage of national income. Each family's share of adjusted gains is assumed to be the same as its share of realized gains. This procedure prevents assignment of a disproportionate share of the corporate tax to capital gains in those years when realizations are especially high.)

In 1980 the economy was feeling the effects of the huge run-up in oil prices during 1979. Between 1979 and 1980, consumer prices grew at a 13.5 percent rate, the highest rate since 1947. Real GNP declined by 0.2 percent for the year, although only in the second quarter was the change in real GNP actually negative. The unemployment rate for the year stood at 7.1 percent, the same as in 1977 and lower than the 7.5 percent rate for 1984. In both 1977 and 1984, however, the unemployment rate had declined from the previous year, while in 1980 the rate had increased from 5.8 percent in 1979. Corporate profits as a share of GNP dropped sharply between 1979 and 1980. Table 1 shows

TABLE 1. SELECTED ECONOMIC INDICATORS, 1970-1990

Calendar Year	Civilian Unemployment Rate	Percent Change in Real GNP	Percent Change in CPI	Economic Profits as a Percent of GNP
1970	4.9	-0.3	5.9	7.4
1971	5.6	2.8	4.3	7.9
1972	5.6	5.0	3.3	8.3
1973	4.9	5.2	6.2	8.3
1974	5.6	-0.5	11.0	6.9
1975	8.5	-1.3	9.1	7.4
1976	7.7	4.9	5.8	8.1
1977	7.1	4.7	6.5	8.8
1978	6.1	5.3	7.7	8.8
1979	5.8	2.5	11.3	8.0
1980	7.1	-0.2	13.5	6.5
1981	7.6	1.9	10.4	6.2
1982	9.7	-2.5	6.1	4.7
1983	9.6	3.6	3.2	6.3
1984	7.5	6.8	4.3	7.1
1985	7.2	3.0	3.6	6.9
1986	7.0	2.9	1.9	6.7
1987	6.2	2.9	3.7	6.6
<u>Projected</u>				
1988	6.5	3.0	4.3	6.6
1989	6.3	3.0	4.3	6.7
1990	6.1	3.1	4.3	6.7

SOURCE: *Economic Report of the President* (February 1988); and CBO projections.

NOTE: GNP = gross national product; CPI = consumer price index. CPI data beginning in 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers.

some important economic indicators for 1970 through 1987, and projected levels for 1988 through 1990.

Macroeconomic conditions affect not only the level of average or median pre-tax family income but also the shape of the distribution of family incomes. This, in turn, influences the measured distribution of tax liabilities. A recession tends to widen the distribution of family incomes chiefly through a reduction in earnings for low-income families. The effects of inflation are less clear. Despite the often expressed characterization of inflation as a tax on the poor, the evidence suggests that an increase in prices may narrow the distribution of family incomes.⁵

Because 1980 was a year of both recession and inflation and because the unemployment rates for 1977 and 1984, although moving in the opposite direction, were as high or higher than the rate in 1980, it is not clear how economic conditions may have changed the distribution of family incomes in 1980 relative to the distribution in 1977 or 1984.

A number of changes in tax policy between 1977 and 1980 tended to increase tax burdens. Social Security payroll tax rates were increased by the Social Security Amendments of 1978. The lack of indexing in the individual income tax allowed inflation to erode the value of personal exemptions and the zero bracket amount (standard deduction) and push families into higher income tax brackets.

5. See Rebecca M. Blank and Alan S. Blinder, "Macroeconomics, Income Distribution, and Poverty," in Sheldon H. Danziger and Daniel H. Weinberg, eds., *Fighting Poverty: What Works and What Doesn't* (Cambridge, Mass.: Harvard University Press, 1986).

Other factors tended to reduce taxes between 1977 and 1980. Some of the effects of inflation were offset in the Revenue Act of 1978 in which individual income tax rates were reduced, individual income tax brackets were widened, and the personal exemption amount, zero bracket amount, and the earned income credit were increased. For upper-income families, the most significant change between 1977 and 1980 was a reduction in the marginal tax rate on capital gains resulting from an increase in the exclusion for long-term capital gains from 50 percent to 60 percent. While excise tax rates were not changed between 1977 and 1980, because many federal excise tax rates were (and still are) fixed in nominal terms, inflation reduced the relative burden of excise taxes.

More significant changes in tax policy came after 1980. The major change in tax policy during the period was the enactment of the Economic Recovery Tax Act of 1981. ERTA reduced the top marginal individual income tax rate from 70 percent to 50 percent, cut other individual income tax rates by 23 percent over a three-year period, and enacted a number of other provisions that lowered individual and corporate income tax liabilities. Some of the corporate tax reductions in ERTA were later offset by provisions of the Tax Equity and Fiscal Responsibility Act of 1982.

At the same time ERTA was reducing individual income tax rates, social insurance tax rates were rising. Most of the changes in Social Security payroll taxes between 1980 and 1984 had been enacted in 1977 but did not take effect until later. These changes included an increase in the employee and em-

ployer payroll tax rate from 6.13 percent to 6.65 percent and two of the three special increases in the taxable wage base.

Distribution of Family Income in 1977, 1980, 1984, and 1988

The distribution of family income became more unequal between 1977 and 1980, and between 1980 and 1984. This trend is projected to continue through 1988. Between 1980 and 1984, a growing share of both labor and capital income was received by the top 1 percent of families in the income distribution. For the 20 percent of families with the lowest incomes, a drop in government transfer payments was the most significant change over this period.

Table 2 shows the distribution of total family incomes by population decile and the share of income received by the top 5 percent and 1 percent of the population in 1977, 1980, 1984, and 1988, under both allocations of the corporate income tax.⁶ In this table and all subsequent tables, the tenth of the population with the lowest incomes excludes families without positive incomes, although those families are included in the totals.

As the table shows, the share of income in all deciles except the two highest declined between 1980 and 1984 under either allocation of the corporate income tax. The share of income in the highest income decile increased by 6 percent (from a 32.9 percent to a 35.0 percent share) under the allocation of the corporate tax to capital income, or by 8 percent (from a 32.0 percent share

6. Family income deciles are formed by dividing all families, ranked by income, into 10 equal groups. Because family income includes the family's share of the corporate tax, and because the share depends on which allocation method is used, families may have different incomes and may lie in different deciles under the two allocations.

to a 34.4 percent share) under the allocation of the tax to labor income. The share of income for the top 1 percent of families increased by about two percentage points.

TABLE 2. DISTRIBUTION OF TOTAL FAMILY INCOME BY POPULATION DECILE (In percent)

Decile ^a	1977	1980	1984	1988
Corporate Income Tax Allocated to Capital Income				
First ^b	1.1	1.0	0.9	0.9
Second	2.5	2.4	2.3	2.2
Third	3.9	3.8	3.6	3.6
Fourth	5.4	5.2	5.0	5.0
Fifth	7.1	6.8	6.5	6.5
Sixth	8.7	8.6	8.2	8.1
Seventh	10.6	10.4	10.1	10.0
Eighth	12.9	12.9	12.6	12.5
Ninth	16.2	16.3	16.3	16.1
Tenth	31.9	32.9	35.0	35.7
Top 5 Percent	21.5	22.2	24.3	25.1
Top 1 Percent	9.2	9.8	11.8	12.5
All Deciles ^c	100.0	100.0	100.0	100.0
Corporate Income Tax Allocated to Labor Income				
First ^b	1.1	1.0	0.9	0.9
Second	2.5	2.4	2.3	2.2
Third	3.9	3.8	3.6	3.6
Fourth	5.5	5.3	5.0	5.0
Fifth	7.1	6.9	6.6	6.5
Sixth	8.9	8.7	8.3	8.2
Seventh	10.9	10.6	10.2	10.2
Eighth	13.2	13.1	12.8	12.7
Ninth	16.6	16.6	16.4	16.4
Tenth	30.6	32.0	34.4	34.9
Top 5 Percent	20.1	21.3	23.7	24.2
Top 1 Percent	8.1	9.0	11.2	11.8
All Deciles ^c	100.0	100.0	100.0	100.0

SOURCE: Congressional Budget Office tax simulation models.

- a. Ranked by size of family income.
- b. Excludes families with zero or negative incomes.
- c. Includes families with zero or negative incomes not shown separately.

